

Chapter 1

Introduction - Packaging Policy

GENERAL

AR700-15/NAVSUPINST 4030.28D/AFJMAN 24-206/MCO 4030.33D/DLAD 4145.7 Packaging of Materiel, is a joint regulation for all Department of Defense (DOD) components which establishes policies on the development of uniform requirements for the packaging of materiel acquired, stored, or shipped. The joint regulation implements DOD 4140.1-R, DOD Materiel Management Regulation, and covers policy requirements concerning the following:

- X Packaging
- X Specifications and Standards
- X Levels of Protection
- X Project Information Exchange

It provides uniform criteria for the selection and prescription of packaging at the time of acquisition, storage, or shipment.

While the Packaging of Materiel publication relates to both preservation of the unit packs and packing of the shipping containers, this document will only address preservation requirements, including the levels of protection. Unit packs and intermediate packs will also be discussed in this chapter.

UNIT PACK

Unit packs are often referred to as interior packs. Figure 1-1 is a diagram which conceptualizes a shipping container with four unit packs and two intermediate packs. Listings of intermediate and shipping containers are found in the MIL-STD-2073-1C, Standard Practice for Military Packaging. This document will be discussed later in the chapters on preservation and preservation methods.

A unit pack is defined as the first tie, wrap, or container applied to a single item, or a quantity thereof, or to a group of items of a single stock number, preserved or unpreserved, that constitutes a single complete or identifiable package.

Unit packs are, for the most part, interior packs; however, there are preservation methods requiring the unit pack to also be the shipping container. Those situations will be presented in chapter four.

INTERMEDIATE PACK

An intermediate pack is a wrap, box, or bundle that contains two or more unit packs of identical items. Intermediate containers or packs are used when they facilitate handling, storage and reshipment; when the exterior surface of the unit pack is a bag or wrap; when the unit pack volume is less than 64 cubic inches and the exterior container is a rigid type; and when specified by the procuring activity.

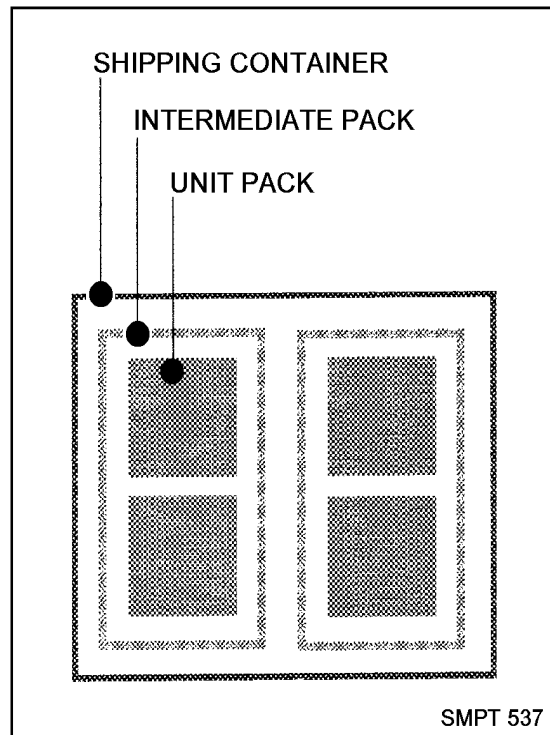


Figure 1-1. A packaging diagram.

The development and ordering of quantities to be placed in the unit, intermediate, and exterior pack require coordination with the managing activity. These quantities will be established after evaluating all known factors, including the following:

- X maintenance concept for the item being supported
- X basis for issue such as allowance and load list
- X life expectancy such as shelf-life and mortality rate
- X chemical and physical characteristics
- X construction and functional requirements
- X fragility or unit cost
- X ease of accountability and inventory
- X commercial practice quantity for like items
- X military standards or applicable regulations

EFFICIENT AND ECONOMICAL HANDLING

The military concept of economy in preservation is to obtain maximum output of adequately protected items at a minimum cost. Economy measures, consistent with the degree of protection required by an item, should be of prime concern to individuals establishing preservation and packaging requirements. They must also be a concern to personnel in charge of or performing packing operations.

Significant savings can be accomplished by reducing the weight and cube; by the employment of options concerning packaging materials, i.e., barriers, wraps and cushioning; and automation. The concepts of "minimum weight and cube packs" and in addition, "a packaging design to fit the item", may not always be possible nor practical. The unit and intermediate packs, shall, however, be of uniform size.

LEVELS OF PROTECTION

"Levels of protection" is defined as a means of specifying the level of military preservation and the levels of packing that a given item requires to assure that it is not degraded during shipment and storage.

Military level of preservation is the packaging protection given an item during shipment, handling, indeterminate storage, and distribution to consignees worldwide.

The military levels of packing consist of the following:

- X Level A. Protection required to meet the most severe worldwide shipment, handling, and storage conditions. Examples of situations which indicate a need for use of a Level A pack are as follows:
 - o war reserve material
 - o mobilization
 - o strategic and theater deployment
 - o open storage
 - o deck loading

Examples of containers used for Level A packing requirements include, but are not limited to, overseas type wood boxes, and plastic and metal reusable containers.

- X Level B. Protection required to meet moderate worldwide shipment, handling, and storage conditions. Examples of situations which indicate a need for use of a Level B pack are as follows:
 - o security assistance, e.g., Foreign Military Sales (FMS)
 - o containerized overseas shipments

Examples of containers used for Level B packing requirements include, but are not limited to, the following:

- X domestic wood crates
- X weather-resistant fiberboard containers
- X fast-pack containers
- X weather-resistant fiber drums
- X weather-resistant paper and multi-wall shipping sacks

ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) ITEMS

Packaging required to protect ESDS items against damage and deterioration from the time of acquisition to anticipated use will be provided at the time of acquisition. MIL-STD-1686, Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies, and Equipment, and MIL-HDBK-773, Electrostatic Discharge Protective Packaging, will be used as guidelines in the identification, packaging, handling, and storing of ESDS items.

PROTECTING RETROGRADE CARGO OR RETURNED MATERIEL

Retrograde materiel will be protected consistent with provisions of the commodity grouping, in the original packaging.

CONSUMABLE, SERVICEABLE (EXCESS) RETURNS

To prevent deterioration and damage, consumable, serviceable (excess) returns for credit will be returned in the original vendor or depot unit pack or in a unit pack which is the equivalent of the original unit pack. Consider the following before returning these items:

- X Ensure item serviceability and/or if condition warrants return. If not warranted, dispose of locally, as appropriate, through the servicing Defense Reutilization and Marketing Office (DRMO).
- X Failure to follow the above procedures for serviceable returns will result in the loss of credit. To minimize the possibility of credit loss, it is imperative that the item not be removed from the original unit pack until ready for use.

HAZARDOUS MATERIALS RETURN

When hazardous materials are being returned, packaging must conform to the applicable modal regulations. Modal regulations are found in the following:

- X International Civil Aviation Organization (ICAO) technical instructions,
- X International Air Transport Associations (IATA) regulations,
- X International Maritime Dangerous Goods (IMDG) Code of the International Maritime Organizations (IMO)
- X Title 49 Code of Federal Regulations (49 CFR), and
- X AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19/DLAI 4145.3, Preparing Hazardous Materials for Military Air Shipments.

OTHER RETROGRADE CARGO

Serviceable and unserviceable reparable materiel will be retained in the original packaging to maintain the integrity of the degree of serviceability of the materiel being returned.

Depot level reparable (DLR), serviceable and unserviceable, whose packaging prescription dictates the use of reusable containers, shall be afforded that protection throughout their life cycle.

All items will be identified with the national stock number (NSN), nomenclature, and quantity. Materiel condition tags or labels and markings will be applied as required by MIL-STD-129 and MIL-HDBK-129 and the DOD component. The shipper will be responsible for adequate packaging of materiel returns.

OTHER POLICY REQUIREMENTS

Other packaging or packaging related policies addressed in the uniform requirement covered by DOD 4140.1-R, previously mentioned, include the areas of commercial packaging, options, military markings, unit pack quantities, safety and health, and ecology.

COMMERCIAL PACKAGING

Commercial packaging shall be used by DOD components when it is cost effective and when commercial packaging will withstand anticipated logistics conditions. All packaging, including "commercial packaging" shall be based upon the following:

- X nature of the item,
- X known logistics requirements, and
- X economic or normal consumer order quantities.

As previously stated, MIL-STD-2073-1C provides a "military packaging development-decisions chart" which leads to the determination of whether "military packaging" or "commercial packaging" is warranted in accordance with (IAW) ASTM D3951, Practice for Commercial Packaging.

Items not going into stock shall be packaged IAW ASTM D3951. This includes items such as:

- X items intended for immediate use
- X items for not mission-capable supply
- X items intended for depot operational consumption
- X small parcel shipments (CONUS) not-for-stock
- X direct vendor deliveries (CONUS)

Items intended for deliver-at-sea, delivered during wartime, or items requiring reusable containers are exceptions to the above list of items.

OPTIONS

When standards, specifications, purchase descriptions, packaging data sheets or cards, special packaging instruction, drawings, or other authorized instructions contain options for selecting packaging methods, materials, or procedures, the option that provides protection at the lowest overall cost will be selected.

MARKING

DOD policy directs components to develop and apply uniform marking requirements to facilitate safe handling and efficient receipt, storage, and shipment of materiel. DOD 4500.32-R, Military Standard Transportation and Movement Procedures (MILSTAMP), provides policies and procedures required to manage and control the movement of materiel through the Defense Transportation System (DTS).

MIL-STD-129, "DOD Standard Practice for Military Marking," is to be used only for marking of military supplies which are intended for storage and shipment within the military distribution system, i.e., for marking of materiel not intended for immediate use, that is stored and/or moved within or between DOD facilities. This document complies with the wording and requirements of MIL-STD-2073-1C.

MIL-HDBK-129, "DOD Handbook Military Marking," is also available to DOD departments and agencies but is used for guidance only. This handbook, although based upon marking procedures from MIL-STD-129, cannot be cited as a requirement. If it is, the contractor does not have to comply.

Hazardous materials shall be packaged and marked in accordance with applicable Federal and international regulations such as the following:

- X Code of Federal Regulations Title 49, Transportation
- X International Civil Aviation Organization (ICAO) Technical Instructions
- X International Air Transport Association (IATA) Dangerous Goods Regulations
- X International Maritime Dangerous goods (IMDG) Code
- X United Nations Orange Source Book
- X Acceptance of Hazardous, Restricted or Perishable Matter, USPS Publication, 52
- X AFJMAN 24-204, Preparing Hazardous Materials for Military Air Shipments

For the purpose of packaging project information exchange, a project is any planned work load involving 160 or more man-hours (including all support functions). This entitles research, development, testing, or evaluation that may result in new or improved packaging concepts, methods, or procedures.